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GEOGRAPHIC SCHOOL BULLETINS

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American Photo Studios

TILED STOVES BY THE YARD ARE PARKING SPACE FOR CUBA'S POTS AND PANS

The Cuban cook may have a fire to suit the size of the dish he is cooking. This many-grill stove, faced with decorative tiles, has an oven at the left and under each pan an individual charcoal fire. Ashes drop through funnels and out through the square openings between the arches. Stoves range in size from a four-burner for small households to one for hotel needs which may stretch across the entire kitchen. Tiles, reminiscent of Spain and North Africa, are much used in Cuba for walls and floors as well as stoves. Many are made on the island, which has one of the largest factories in the world (Bulletin No. 2).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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General Headquarters, Washington, D. C.

The Dnepr Line a Russian Battlefront Again

WHEN Russia's winter counterattack leapt like a coiled spring against Nazi forces, the campaign punched the invaders backward from Stalingrad on the Volga toward the valley of the "Volga of the West," the Dnepr River.

This is Europe's third-longest river, ranking after the Volga and the Danube. The dominant river of the Ukraine, the Dnepr (Dnieper) flows through what would be in normal times some of the richest farm land and most productive industrial regions of the U. S. S. R. It pours past Kiev, capital of the Ukraine and, before the war, the third-largest city of the Soviet Union.

Dneprostroy Power Dam a Mammoth Engineering Project

Before Russians dynamited, in 1941, one of their proudest achievements to keep it from serving the enemy, the Dnepr roared through sluices of the Dneprostroy Dam to turn the turbines of one of the world's largest power plants.

Completed in 1932, the mighty dam required enough concrete to make a pavement an inch thick and a yard wide from New York to Omaha. It rose 200 feet above the river bed and was nearly a half-mile wide. Its construction necessitated acres of plants and machine shops and homes for 20,000 workers.

The Dneprostroy power plant's turbines, among the largest ever built at the time of construction, were products of American factories, as were about half of the generators, which had a capacity of 900,000 horsepower.

The Dnepr-generated electricity transformed an area twice the size of Indiana and served more than five times as many people as live in that State. Near-by collective farms used the power for electric plowing and electric milking. Industrial centers harnessed the power to the hard work of processing metals.

Kiev a Pre-War City of Growing Industries

Always a main artery of the Ukraine, the Dnepr was hampered by a turbulent 25-mile stretch of boiling rapids south of Dnepropetrovsk. Formerly ships could pass only in high water periods. The Dneprostroy Dam, with canals and locks to carry ships around it, raised the river level 120 feet and made possible the navigation of the Dnepr continuously for 1,300 miles from its mouth.

In peacetime the river transported farm produce from the rich black-earth belt of the Ukraine—grain, vegetables, sugar beets, and fruits; industrial raw materials, including coal, iron ore, and manganese; and finished products of steel and iron which the Ukraine feverishly contributed to the U. S. S. R.'s defense.

Rising in the Valdai Hills about 150 miles west of Moscow, not far from the Volga's source, the Dnepr winds more than 1,400 miles on its southward course to the Black Sea, through a basin in which an estimated 14,000,000 people lived before the war. By canal it is connected with rivers that flow into the Baltic Sea. It is a water link between the Moscow region in the north, the White Russian S. S. Republic in the west, and the Ukrainian S. S. Republic in the south.

Along the Dnepr's banks stand some of the Soviet Union's most important and fastest-growing cities. In the north is Orsha in White Russia—about 125 miles northeast of Minsk—a city augmented in recent years by huge square blocks of factories to accommodate the meat and flax-weaving industries.

Roughly halfway along the river's winding course is the new-old city of Kiev (850,000 people), which lies deep within the Ukraine. The Ukrainian capital was

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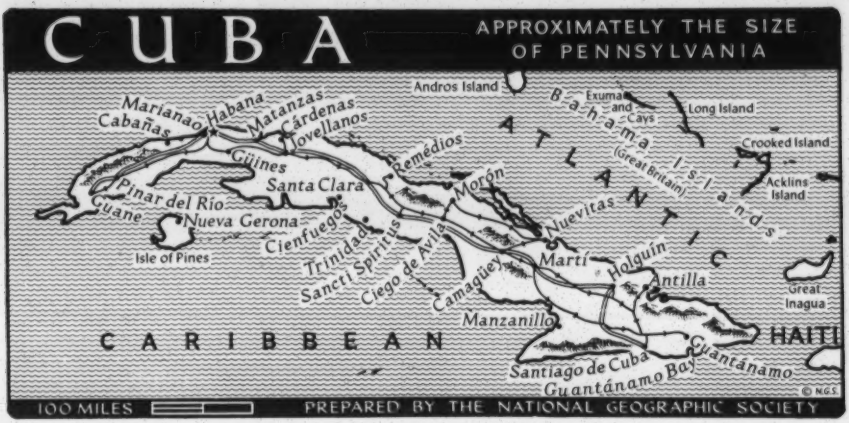

SLIM CUBA FATTENS THE UNITED STATES WITH SWEET EXPORTS

Long and lean in outline, Cuba is associated with that great producer of avoirdupois, sugar. On big plantations dotting the 44,000 square miles of its several islands, the republic raises enough sugar cane for the second-largest crop in the world, and could produce more. The United States buys most of it.

Few people realize that the island of Cuba is more than 750 miles long; that, if placed over the United States, it would extend from Savannah, Georgia, far beyond the Mississippi. Yet in width it averages about 50 or 60 miles.

The republic includes the adjacent Isle of Pines and assorted smaller islands, bringing the area to within 1,000 square miles of that of Pennsylvania.

Habana, the banking and commercial center of the republic as well as the business seaport for Cuban trade, has some 600,000 inhabitants. It was there, in July, 1940, after the spectacular German conquests in Europe, that representatives of the 21 American republics met to decide on cooperative measures for protection of the Western Hemisphere. Whoever "remembers the *Maine*" will recall that the sinking of this ship in Habana's harbor helped to precipitate the Spanish-American War, by which Cuba became independent.

To Americans, the next-ranking cities are less familiar: Holguín, near the northeast coast, and Camagüey, in the cattle-raising region of the south-central portion. The venerable old city of Santiago de Cuba, founded in 1514, is better known to students of United States history and to importers as well. This port ranks next to Habana in business. The waters of its harbor near by became the graveyard of the coaling ship *Merrimac*, which Lieut. Richmond Hobson sank there in June, 1898, in an unsuccessful move to bottle up the Spanish fleet.

Possibly the next in importance is the city of Cienfuegos, the port for Santa Clara and the surrounding plantations.

Of special interest to Americans is the U. S. Naval Station on Guantánamo Bay, in the southeast. A sentinel on the busy traffic lane between Cuba and Haiti, it has one of the world's best harbors, deep and large, and protected from storms and sea attack. It was leased soon after the Spanish-American War.

Cuba has more than 3,000 miles of public railways, plus another 5,500 miles of private lines owned by the big sugar companies. There are some 2,000 miles of roads. Outstanding is the famous paved Central Highway, opened in 1931, that extends the length of the island.

There are high mountains near the eastern extremity of Cuba, culminating in Mt. Pico Turquino, 8,400 feet high. But most of the island is low and open, with pleasant vistas of palm-framed roads, green and yellow canefields, and broad patches of tobacco often shrouded in white netting against the hot sun (Bulletin No. 2).

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Cuba, "Sugar Bowl of the Antilles"

(This is the thirteenth of a series of bulletins, with maps and illustrations, on the republics of Latin America.)

TO thousands of United States visitors who have made a quick flying or sailing trip to the big island off the tip of Florida, Cuba means Habana—Morro Castle frowning down on the capital's beautiful bay, the laurel-shaded walk of the Prado, the time-softened Cathedral, and the glittering, gold-crowned Capitolio.

Today, however, the winter-resort side of Cuba (which even in peacetime was only part of the variegated, hard-working life of the island republic) has given way to the more serious business of conducting a war. On December 9, 1941, two days after the Pearl Harbor attack, Cuba joined the ranks against Japan; on December 11, against Germany and Italy.

Guards Atlantic Approaches to Caribbean Sea and Panama Canal

Cuba's location, so conveniently close for exchange of trade in peacetime, has made the island doubly significant to the United States as a military ally. Less than 100 miles south of the Florida Keys, Cuba is a strong link in the chain of islands guarding approaches to the Caribbean and the Panama Canal. Its western portion lies across the entrance to the Gulf of Mexico, overlooking the Straits of Florida on the north and, on the south, Yucatán Channel off Mexico.

Under the Lease-Lend Act, Cuba has received from the United States financial backing and defense equipment. For its part, the island contributes sugar for war-needed industrial alcohol and energy-making sweets, and such strategic materials as manganese and chromium.

The United States has arranged to set up air and submarine bases there, supplementing the powerful and long-held naval station at Guantánamo.

Cuba is the biggest and most populous island of the West Indies. More than 4,227,000 people live there. Its slim rounded head and two-pronged tail give it, from the air, the appearance of some great sea monster (map, inside cover).

Sugar Is King on Cuba's Plantations

Cuba is chiefly a land of farms and plantations. Cattle raising is important. But there are numerous factories turning out such products as textiles, cigars and cigarettes, molasses, perfumes, and tiles.

Sugar is king in Cuban agriculture. Among the many names given this fertile, balmy island, including "Pearl of the Antilles," none is more apt than "sugar bowl." The rich island produces the world's second-largest sugar crop (illustration, next page), ranking next to India. The sugar industry sways standards of living. Its ups and downs have brought dramatic booms and depressions, and influenced the development of social welfare, health, and sanitation programs.

In 1941 Cuba raised well over two and a half million tons of sugar. Though kept within a quota in recent years, the island has grown as much as four or five million tons annually and is capable of even greater yields.

Tobacco (of which the republic produces some of the finest quality in the world) is the second-ranking crop.

To prevent too great dependence on sugar, the government has been encouraging expansion in other fields, including dairy farming. Bountiful nature

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counted among the Union's rising industrial centers, having added heavy industries to an already flourishing business in shoes, clothing, and candies.

Farther downstream is the iron and steel city of Dnepropetrovsk, formerly Ekaterinoslav, which has a population of more than half a million.

IN THE DNEPR VALLEY "LITTLE RUSSIANS" GROW BIG

The Ukrainian S. S. Republic, through which the Dnepr plows its S-shaped course, is an autonomous member of the U. S. S. R. long known as "Little Russia" in contrast to the larger northern unit of "Great Russia" centering at Moscow. Modern women of the industrial Ukraine, who share in building Russia's defenses and carrying on the war, are more likely to be seen in farm overalls or welders' masks, but they prize the traditional costume of their region.

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Spanish Morocco: Volatile Cap on Northwest Africa

"CANNON to right of them, cannon to left of them, cannon behind them volleyed and thundered"—but Spanish Morocco clung to a precarious peace throughout the invasion of French North Africa by British and American forces.

East of the battle-scarred invasion ports of French Morocco, west of the battlefields of Tunisia, Spanish Morocco remained ominously quiet while armies from England, France, and the United States rolled around three sides of it.

In the excitement over French Morocco, many newspaper readers have forgotten that the Moroccan sultan's realm is divided into three zones of foreign influence. The zones roughly form a pyramid, with the vast French territories making the base, the smaller Spanish region topping it, and the little patch of the International Zone perched on top. (In 1940, in spite of protests from the U. S., Spanish forces had occupied the formerly neutral International Zone.)

A Spanish Watchdog Opposite Gibraltar

Military experts point out that as long as German forces keep a foothold in Tunisia, they have the makings of a giant pincer movement against Allied forces in North Africa—a squeeze operating from Tunisia on one side and Spanish Morocco on the other. The possibility of their using Spain's African territory as a base for a flank attack, even without Tunisia, makes American commentators regard Spanish Morocco with caution. News reports often allude to the presence of German technicians and observers in this conveniently situated lookout.

Spain's slice of Morocco is about as big as Connecticut and New Hampshire combined, some 13,000 square miles—but one-fifteenth as large as French Morocco.

The country fronts the Mediterranean for 200 miles, across the Strait of Gibraltar from Britain's great fortified rock and Spain's southwestern coast. The 225-square-mile International Zone of Tangier is chipped off its northwestern corner. Farther west, outside the strait, the country fronts the Atlantic, its shoreline dipping southward for 50 miles. Its whole southern land frontier, winding for the most part through highlands, borders French Morocco.

Except for its rim along both coasts—broader, more fertile on the Atlantic than on the Mediterranean—Spanish Morocco is mountainous.

Most famous natural feature in the area is the rocky promontory forming one of the Pillars of Hercules, on the south side of that fabled bottleneck, the Strait of Gibraltar. Legend has it that this promontory and Gibraltar once were joined. There is geological evidence to indicate that Africa might indeed have been linked with Europe at the strait (illustration, next page).

Riff Uprisings Challenged Spanish Power

Conquest of the North African front has been an old Spanish custom since Columbus's day. Agreements with other European powers later resulted in the present protectorate. Spanish power has been undisputed in the area since 1927.

Public affairs are administered by a Spanish commissioner at Tetuan, capital and largest city. The sultan delegates his authority over this territory to an official, the Khalifa, whom he selects from candidates put up by Spain.

Sharpshooting Riff tribesmen did not take kindly to the Spanish regime and staged occasional uprisings. The Riffs are Berbers, descendants of white aborigines who inhabited northwest Africa while Egyptian empires rose and fell in the north-

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has provided Cuba with climate and soil for bumper crops of coffee, corn, cacao, and rice; of such mouth-watering vegetables and fruits as tender garden lettuce and radishes, pineapples, mangoes, papayas, alligator pears, and citrus fruits.

In Cuba's forests are found valuable woods—mahogany, cedar, pine, ebony, rosewood. Its extensive mineral deposits include—besides chrome ore, copper, and manganese—considerable iron and some nickel, gold, and petroleum. Practically all of the mineral exports have recently been shipped to the United States.

In war or peace, the United States is Cuba's best customer and chief source of imports. The island's economy has been closely linked with that of the northern neighbor since the Spanish-American War, when U. S. forces helped Cuba win her independence. Discovered by Columbus in 1492, Cuba was the last colonial possession to break with Spain.

Note: Cuba is shown on a large-scale inset on the National Geographic Society's Map of Mexico, Central America, and the West Indies. A price list of maps may be obtained from the Society's headquarters in Washington, D. C.

For further information on Cuba, see "Cuba—The Isle of Romance," in the *National Geographic Magazine*, September, 1933; and these GEOGRAPHIC SCHOOL BULLETINS: "War Drafts Sugar for Double Duty," March 9, 1942; and "New U. S. Defense Bases: They Aid Older Caribbean Stations," November 11, 1940.

Bulletin No. 2, March 15, 1943.

Roberto Machado

GAS RATIONING WON'T SLOW THE SUGAR-CANE SPECIAL

In the west, where most of the sugar industry is Cuban-owned, much of the cane is hauled from fields to mill on two-wheeled ox carts, as it was when Cuban sugar was first raised early in the 16th century. The short sweet sticks, piled as high as the driver, are slowly jolted to the *central* to be crushed into molasses—on the way to becoming fine white grains for which Uncle Sam's citizens surrender ration coupons. In the east, railroads speed up transportation.

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The Unrationed Olive, One of Western Man's Oldest Foods

THE housewife, checking points on ration stamps against the items on her market list, seizes with delight upon olives as a still unrationed food.

Even the olive, however, is becoming less abundant on grocery shelves. More and more American-grown olives are choosing oil as their career, while fewer and fewer imported olives appear to fill the gaps among the pickles.

Most of the United States crop in pre-war years went to canned ripe olives, rich brown and succulent. Cooperative plants carefully regulated the picking and canning. Standardized sizes gave the purchaser a choice from "small select" olives, 140 to the pound, all the way to "super colossal," 32 to the pound.

The familiar green olive pickled in brine, often in its picnic costume of red pimiento stuffing, was, for the most part, imported. It came chiefly from Mediterranean countries now isolated by Axis occupation or Nazi submarines.

One Five-Hundredth of World's Olive Oil from California

Since these countries no longer export olive oil, the United States olive industry is feeding a larger proportion of its fruit into oil presses (illustration, next page). The golden stream of first-press oil from California's groves in these warring years of the 1940's has doubled the domestic flow in the importing years of the 1930's. The total now is about ten million pounds.

New importance for America's olives does not mean world importance. Although Franciscan padres planted small groves near their San Diego Mission 170 years ago, the slow expansion to the present total of 1,200,000 trees has been confined to California, with a tiny overflow into Arizona. Only that corner of the nation matches the warm climate and dry sandy soil of Mediterranean lands.

California's groves normally account for about one five-hundredth of world olive oil volume. Olive trees must grow for seven years or more to reach full bearing stage. Since neither trees nor wars can be rushed for the convenience of appetites, Americans must grin and bear the present shortage, with a mere fraction of the 58,000,000 pounds of olives, 50,000,000 pounds of edible olive oil, and 30,000,000 pounds of low-grade oil imported in 1940.

The home of the olive is the Mediterranean basin, where millions cultivate it and use it as food, medicine, and cosmetic. Of the 138,000,000 pounds of olive imports reaching the United States in 1940, 57,000,000 pounds came from Spain, 50,000,000 from Greece, 20,000,000 from Italy, and 9,000,000 from Portugal.

A Lost Crop Causes Famine Around the Mediterranean

These countries and their neighbors all around the Mediterranean have an olive agriculture and economy as old as recorded history. Its antiquity is symbolized by the olive leaf which the dove brought to Noah as the waters of the flood receded. It supplied the anointing oil of the Twenty-Third Psalm.

The crown of olive leaves bestowed on the Greek champion of the Olympic marathon or the Roman battle hero consumed no strategic metals, yet was a badge of honor no less esteemed than the medals and "Oscars" accorded in modern times. The olive branch is a universal symbol of peace.

Frequent news dispatches illustrate the distress resulting from famine of olives in Italy, France, and Greece. Italians complained of slim rations in 1941 when most of their crop went to Germany for explosives.

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east. Moslem, Vandal, and finally European conquerors have all had to contend with the ferocious resistance of Berbers defending their homeland. Like many other tribes, the Riffs, driven into the hills, continued their opposition until the capture and exile of their chieftain, Abd el Krim, in 1927.

The revolution by which Axis partners helped lift General Franco to power in Spain had an early chapter in this Spanish outpost area in Africa.

The protectorate has few hard surface roads, though towns once reached only by camel caravans are linked by bus routes. A railroad skirts the Atlantic coast and another connects inland Tetuan and its port, Ceuta, long known for its brass wares. Ceuta is almost directly across from Gibraltar.

Large Exports of War Metals

Of the country's 800,000 inhabitants, most are Moslems. The highlanders are practically self-supporting, planting grain and raising sheep and goats. The lowlanders grow grains, beans, olives, and fruits, along the coast.

Sizable export items from Spanish Morocco, before the war, included almonds, oranges, potatoes, oxhides, wool, sheepskins, millet, fish, and eggs.

Of special wartime importance is the iron ore mined near the little eastern port of Melilla and exported in quantities amounting to one and a half million tons a year. Manganese for alloying steel, lead and antimony for use in batteries, and graphite are additional mineral exports.

Note: Spanish Morocco may be located on the National Geographic Society's Map of Central Europe and the Mediterranean. See also in the *National Geographic Magazine* for January, 1943, "Eastward from Gibraltar."

Bulletin No. 3, March 15, 1943.

J. Charles O'Brien, Jr.

A EUROPE'S-EYE VIEW OF AFRICA SHOWS SPANISH MOROCCO ON GUARD

The Strait of Gibraltar, that slim bottleneck of water which is the only channel between the Mediterranean and the Atlantic, is sentineled by rocky headlands on either side. On Europe's shores stand Gibraltar, British bulldog fortress, and the Spanish stronghold at Europa Point (above) where a 200-foot-high light (left) throws a long beam as far as Africa to help guide shipping. At Europa Point, Spain is only 12½ miles away from Africa, where the fortress port of Ceuta in Spanish Morocco stands near the misty headlands (right background). The strait's bold headlands on the two continents fired the imagination of the early navigator to name them the Pillars of Hercules in honor of the ancient Greek Superman who was supposed to have knocked them apart to let the two seas meet.

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Geo-Graphic Brevities

GABON, OBSCURE AFRICAN COLONY SPOTLIGHTED IN WAR ROLE

GABON, a usually neglected one of the four territorial divisions of French Equatorial Africa, has come in for some unusual consideration since American and British forces have been reported in that middle part of the continent.

Fronting on the Atlantic south of Africa's great westward bulge, Gabon is a trowel-shaped slice of the French Congo, about as big as Oregon.

It was born of a three-way split of the old French Congo in 1910. The other divisions were Middle Congo and Ubangi-Shari. Later the Chad Territory was cut off from Ubangi-Shari. Brazzaville is the administrative center of the group.

Bisected by the Equator, the region lives up to the climate tradition of that torrid line. Temperatures run high. No month passes without rain. Gabon nature in the raw is a pattern of forested wilderness, varied with chains of low mountains, prairies, and mangrove swamps.

Of the total population of about 410,000 in 1936, Europeans accounted for little more than 1,200. Sleeping sickness has claimed many victims there.

"Wild" rubber was once a leading export, but it was unable to compete with the product of Far East plantations. Ivory long has been a ranking item in Gabon's trade. Palm oil, coffee, timber, cotton, and cacao are produced in commercial quantities. Copper, zinc, and lead are accessible but undeveloped.

* * * * *

A LITTLE ANT SHALL AID THEM—IN AUSTRALIA

AMERICAN fliers in the Australian theater of war have an odd and unwitting ally—the little white termite that builds peculiar ant hills two or three times the height of a man (illustration, next page). Like giant gray tombstones these termite nests, called termitaria, rise in parched northern Australia, and soldiers use their shade to hide bombs from spying Japanese fliers.

Between Birdum and Australia's northern port city of Darwin, the so-called white ant—one of the most hated of the termite family—has built thousands of weird nests, like giant molars. These form a fantastic city of widely scattered ant skyscrapers, ranging in height from 12 to 20 feet.

The white ant is a night worker. Yet in spite of the darkness its structures are peculiarly true to plan; they invariably point due north and south. For their similarity to the magnetic needle of the compass they are called "magnetic nests." The canny termite carpenter faces the broad sides of the structure toward the sun's path to ensure quick drying of the walls.

Hard and enduring as cement, these great skyscraper dwellings are built by worker termites measuring a scant quarter of an inch. But their queen, safely walled into the center of the structure—waited on, stuffed with food, pampered by her subjects—often reaches a length of four hideous inches. Most productive of all land creatures, she lays at least 30,000 eggs a day, over 10,000,000 a year.

The northern half of Australia could almost be called Termite Territory. Houses are built on high metal-capped stilts in an effort to baffle the termites. But the white ant, propelled by its appetite for wood, gnaws away telegraph poles, house walls, fences, books, or anything else containing cellulose.

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Particularly in Greece, the salt-cured dried olive, almost unknown in America, is a staple of diet. The fruit serves as milk, butter, eggs, tonic, and soap to millions. Their diet has been coffee with bread and oil for breakfast, vegetables fried in oil and saltless brown bread soaked in oil for lunch, and the same—plus fish and home-cured olives—for supper.

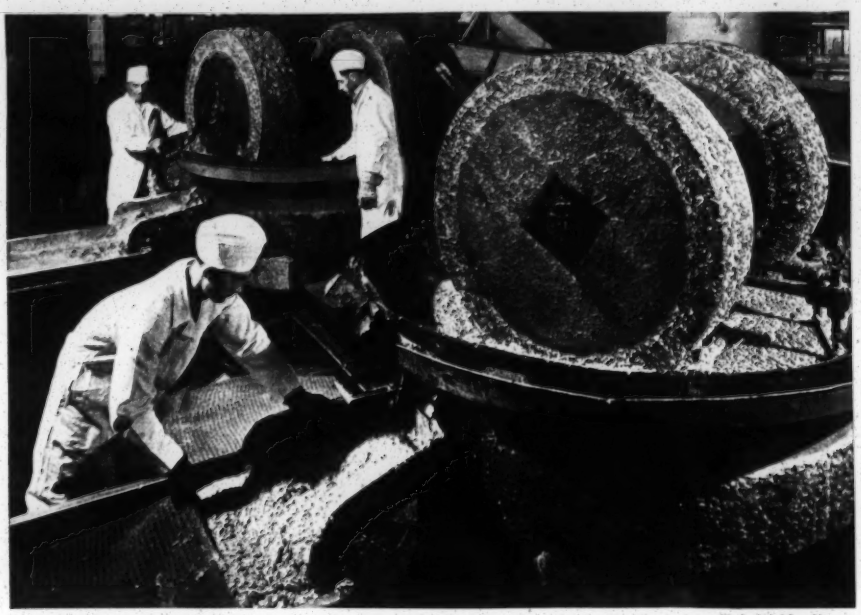
Olive Acres in Spain and North Africa

Spain is the great volume producer of olives and olive oil—the land of vast olive acreage. The Italian and French Riviera and the mountains behind are regarded as ideal for slowly maturing the finest fruit. Restoring fertility to barren sands in North Africa, the French have in recent years greatly increased olive culture in areas now viewed by American troops. Neat rows of trees in Tunisia stretch for miles south from Kairouan, embattled Moslem holy city, and west from Sfax and Sousse. Ruins of Roman millstones in the region told that olive trees had grown there before the Arabian conquest.

Recognition of the olive's usefulness spread as trade horizons broadened. Trees were already growing in California when Thomas Jefferson wrote George Wythe in 1787: "The olive tree is assuredly the richest gift of Heaven. I can scarcely except bread." Australia and Chile are countries where culture of the fruit is successfully practiced on a modest scale.

Note: For information about foods, rationed and unrationed, see "Revolution in Eating," in the *National Geographic Magazine*, March, 1942.

Bulletin No. 4, March 15, 1943.



Gabriel Moulin

STONES OF ANCIENT DESIGN GRIND AN ANCIENT FOOD IN MODERN CALIFORNIA

The olive tree of the Mediterranean ranks with the coconut palm of ocean islands and the date palm of the desert among the world's most valuable life-sustaining trees. Oil pressed from its fruit was valued in Biblical days, and was paid by King Solomon to workmen on his temple. The ancient method of crushing olives with stones still persists, even in California where the tree was not introduced until the 18th century. The olives run through a roller crusher, then are ground to pulp (or pomace) by a granite edge runner (above). The pulp is caught (left) in a flat bag of coconut fiber and then pressed. The first pressing produces clear, golden edible oil. The second pressing yields commercial oil for lamps and lubricants. The residue of pulp is baled and sold as stock feed or fertilizer.

24-HOUR CLOCK, USED BY ARMY AND NAVY, AN INTERNATIONAL CONVENIENCE

YOU "gotta get up" at 0545 at United States Army camps nowadays. And taps, when you're supposed to be tucked in for the night, is sounded at 2200. Gone with the war—at least from the military record book for the duration—are the well-known symbols, A.M. and P.M. The Army since last July has been using a 24-hour system, counting from midnight to midnight. The Navy had already been "marking time" this way. Without upsetting traditional ship's clocks that sound eight bells six times a day, the Navy adopted the 24-hour system in 1920.

To experienced travelers there is nothing new about the 24-hour clock. It has been in use by governments, railways, steamship companies, and air lines throughout continental Europe for many years. France officially adopted the 24-hour system in 1912, having used it as early as 1884. American overseas forces became acquainted with it in 1917 and 1918 when it was standard for all Allied military and naval messages and records.

Time tables for transportation in Mexico, Brazil, Argentina, and many other American republics are on the 24-hour basis. Its adoption early in 1942 by one of the commercial air lines in the U. S. made it a reality for many American travelers. They show 5:15 P. M., for example, as 1715.

Many clocks in the stations and public squares of European cities have the ordinary dial of Roman numbers 1 to 12, to which is added an inner dial showing Arabic numbers 13 to 24. This makes the 24-hour railroad time easy to read on standard clocks without the necessity of altering the mechanism.

Bulletin No. 5, March 15, 1943.

Harry Pidgeon

COMPASS TERMITES BUILD WEIRD "MAGNETIC" NORTH-SOUTH CITIES

The hard-working, wood-destroying termite of Australia—called a "white ant" because of its pale color—doesn't have a magnetic compass, but it lays the lens-shaped floor plans of its "skyscrapers" due north and south so that the broad side walls will have the benefit of the most sunlight for drying. Endless acres dotted with these termitaria make a giant city of Lilliputian termites, all the "buildings" pointing weirdly north and south. The termite builder works on the night shift, raising sturdy walls of moist soil cemented with saliva; the walls harden like concrete. This "magnetic" skyscraper, on Prince of Wales Island in Torres Strait off Australia's north coast, is about 12 feet high and nearly six feet from north to south.

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